Rhode Island Department of Health

Public Health Briefings

Proposed Breast Cancer Screening Recommendations

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Objective

The Rhode Island Department of Health assembled an Expert Panel on Cancer Screening to advise the Department on revising the State's current cancer control plan, published in 1989. (1) After reviewing the current screening recommendations of national organizations and the most recent pertinent literature, the Panel proposed a recommendation for breast cancer screening.

Methods

- Review current breast cancer screening recommendations of national organizations.
- Review the most recent literature pertinent to breast cancer screening.
- Discuss.
- Propose breast cancer screening recommendations for the State's cancer control plan.
- Write a simple rationale for the proposed breast cancer screening recommendations.
- Invite comments on the proposed recommendations and rationale.

Current Breast Cancer Screening Recommendations:

U.S. Preventive Services Task Force (2)

- Routine screening for breast cancer every 1-2 years, with mammography alone or mammography and annual clinical breast examination (CBE), is recommended for women aged 50-69.
- There is insufficient evidence to recommend for or against routine mammography or CBE for women aged 40-49 or aged 70 and older, although recommendations for high-risk women aged 40-49 and healthy women aged 70 and older may be made on other grounds.

- There is insufficient evidence to recommend for or against the use of screening CBE alone or the teaching of breast self-examination.

American Cancer Society

- CBE and mammography annually beginning at the age of 40. CBE at least every three years, and breast self exam monthly, between the ages of 20 and 40.

American College of Radiology, American Medical Association, American College of Obstetricians and Gynecologists

- Routine screening with mammography every 1-2 years and annual CBE beginning at the age of 40. Annual mammography and CBE beginning at the age of 50.

American Academy of Family Physicians

- Routine CBE every 1-3 years for women aged 30-39 and annually for women aged 40 and older, and mammography annually beginning at age 50.

American College of Physicians

- Screening mammography every 2 years for women aged 50-74.
- Recommends against mammograms for women under 50 or over 75 years and baseline mammograms, regardless of risk.

National Cancer Institute

- Routine mammography and CBE every 1-2 years in women aged 40 and over at average risk of cancer.

Canadian Task Force on the Periodic Health Examination

- Annual CBE and mammography for women aged 50-69.
- Recommends against mammograms in women under 50.

Proposed Rhode Island Recommendations

- **For women without a family history of pre-menopausal breast cancer, CBE should be performed at the periodic health examination after the age of 30.**
- **Annual CBE and mammography after age 40.**

- **For women with a first degree relative diagnosed with pre-menopausal breast cancer, annual mammography should commence 5-10 years prior to the age at which the relative was diagnosed.**
- **Women with BRCA1 and BRCA2 mutations should receive annual or semiannual CBE, and annual mammography, beginning at age 25 to 35 years.**

* Please note: These recommendations were modified before adoption.

Rationale

When the Rhode Island Cancer Control Plan for 1990-1992 was published, the Director of Health determined that women 50 years of age and over should be screened by clinical examination of the breasts (CBE) and mammography annually, women 40-49 years of age should be screened by CBE annually and by mammography every 1-2 years, and women 35-39 years of age should be screened by CBE annually and by mammography once between the ages of 35 and 39, to establish a baseline for the interpretation of later mammograms. The proposed recommendations represent a marked change from these recommendations and are based on the following information:
According to the U.S Preventive Services Task Force, "While routine visits with the primary care clinician are important, performing the same interventions on all patients and performing them annually are not the most clinically effective approaches to disease prevention. Rather, both the frequency and the content of the periodic health examination should reflect the unique health risks of the individual patient and the quality of the evidence that specific preventive services are clinically effective." This position was endorsed by the American Medical Assocation in 1983. (3) Women in their thirties frequently visit primary care physicians for reasons related to reproductive health. Clinical breast examinations should be performed at these visits, which may also involve screening for other reproductive health conditions (e.g., cervical cancer).
Breast cancer is the single leading cause of death for women 40-49 in the United States, (4) and the risk for development of breast cancer for women 40-49 increases steadily over this decade. The American Cancer Society and the National Cancer Institute now recommend routine mammography for women in this decade, and the federal government is moving to require Medicaid, Medicare, and federal employee health plans to incorporate these recommendations. A recent panel of experts convened by the NCI reviewed data from eight large randomized clinical trials of mammography screening of women in their 40s, conducted over a span of three decades and recently updated. Of the eight trials, five showed a mortality benefit, and meta-analyses of these clinical trials estimate that the overall mortality benefit is 16-17%. (4) Several factors, notably crossover of participants between screened and unscreened groups, and improvements in mammographic techniques since the trials were begun, make it likely that the true mortality benefit is actually larger than that reported.

The US Preventive Services Task Force finds insufficient evidence to recommend for or against routine CBE and mammography in women under 50 years of age. However, premenopausal women have denser breast tissue and up to one fourth of invasive breast cancers are not detected by mammography in 40-49 year old women. (4) Therefore, routine mammography in this age group should be supplemented with regular CBE.

Data regarding the optimal frequency of mammography screening is limited, particularly for women 40-49 years of age. Among women 50 years of age and over, similar mortality reductions were measured in trials using periodicities of mammography ranging from 12 to 33 months, and a meta-analysis of the trials estimated that the reduction in breast cancer mortality was the same over screening intervals of one to nearly three years. (5) However, mathematical modeling studies (6,7) indicate that a greater proportion of interval breast cancers grow faster in younger, premenopausal women compared with older women. Therefore, a conservative approach, based on currently available scientific evidence and without consideration of cost-effectiveness, is to recommend annual mammograms for all women 40 years of age and over.

It has been estimated that 5-10% of breast cancer cases are attributable to mutations in two recently identified genes, BRCA1 and BRCA2, and the lifetime risk of cancer among carriers of these mutations is high. Testing for these mutations is increasingly available. In recognition of these developments, a task force organized by the National Human Genome Research Institute has issued recommendations for earlier, more vigilant surveillance for breast cancer among carriers of these mutations (8) compared to women at average risk for breast cancer.

Scientific evidence does not support the effectiveness of breast self exam (BSE) for detecting earlier stage breast cancer nor for reducing mortality from breast cancer. (9) However, raising awareness among women to the state of their bodies, including their breasts, is to be encouraged, and women of any age who are motivated to learn and perform BSE should be assisted to do so. Unrelated to its lack of effectiveness for breast cancer, BSE, when performed regularly and thoroughly, has markedly increased the detection of benign breast lesions, (9) some of which may require treatment.

It must be emphasized that screening mammograms apply only to women who are asymptomatic (i.e., women who have no symptoms of breast disease and whose CBE, performed by a health care provider, is within normal limits). Women with clinical findings on CBE, and those with abnormal screening mammograms should be followed up with appropriate imaging and diagnostic testing. (10)

Other, newer techniques (magnetic resonance mammography--MRM, ultrasound, and radionuclide studies) may occasionally be used as adjunct diagnostic tests to supplement screening in particular subsets of women. These techniques are evolving and cannot now be considered as stand-alone screening tools. However, the use of some of these as breast cancer screening tools can be anticipated in the future.

National guidelines for breast cancer screening, particularly those for mammography, have recently undergone marked changes and are likely to

undergo more in the next few years as the results of long-awaited randomized controlled clinical trials become available. These could well lead to a reconsideration of the guidelines presented here. For this reason, review of the Rhode Island recommendations for breast cancer screening may be warranted before the next scheduled revision to the Rhode Island Cancer Control Plan.

References

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